Accepted Manuscript: Optimising asthma care and greener inhaler prescribing

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High-quality asthma care involves ensuring concordance with inhaled corticosteroids, whilst minimising the use of Short Acting Beta Agonists (SABAs). In addition, the UK Government has committed to cutting the UK's greenhouse gas emissions by 78% of 1990 levels by 2035 and achieving net zero by 2050. Inhalers make up 3% of all NHS carbon emissions. According to the National Institute of Health and Care Excellence (NICE), metered dose inhalers (MDIs) have estimated carbon footprints of 500 g per dose, whereas dry powder inhalers (DPIs) have much lower estimated carbon footprints of 20 g CO2eq per dose. For comparison, estimated carbon footprints indicate that a 9 mile trip in a typical car produces 2610 g CO2eq (or 290 g CO2eq per mile) (Prescqipp, 2022). MDI use in the UK is far higher than in other European countries.

QUESTION 1

Overreliance on short-acting bronchodilators (SABA) can indicate poor disease control. Three or more days a week with any need for SABA is a pragmatic threshold for uncontrolled asthma (NICE, 2017).
Well-controlled asthma for most patients will mean using how many SABA inhalers a year?

1-2
3-4
5-6

When re-authorising repeat prescriptions for SABAs, a practical IT step that can be taken to reduce over-ordering of SABA inhalers could be to edit the template prescription for SABA inhalers so that the default issue duration is longer. This will allow the medical record system to flag SABA over-reliance automatically if patients are requesting inhalers more frequently.

QUESTION 2

Respiratory targets for primary care this year involve limiting the number of issues of SABA to fewer than six SABA inhalers per year. An issue duration of how many days should be set to limit the number of SABA inhalers to fewer than six per year?

28 days
56 days
84 days

Using the MART regime can be an effective way to optimise asthma care whilst simultaneously reducing the carbon footprint of asthma inhaler prescribing.

QUESTION 3

Use the tables of inhalers by carbon footprint category in the Greener Practice (2021) resource how to reduce the carbon footprint of inhaler prescribing to identify which THREE of the following inhalers have a low carbon footprint (less than 2 kg CO2/inhaler).

DuoResp Spiromax.
Fostair MDI
Fostair Nexthaler
Symbicort Turbohaler
Flutiform MDI

Greener Practice. How to reduce the carbon footprint of inhaler prescribing. 2021. https://s40639.pcdn.co/wp-content/uploads/Reducing-Carbon-Footprint-of-Inhaler-Prescribing-v3.3.2.pdf (accessed 24 August 2022)
National Institute of Health and Care Excellence. Asthma: diagnosis, monitoring and chronic asthma management. 2017. https://www.nice.org.uk/guidance/ng80 (accessed 24 August 2022)

Prescqipp. Bulletin 295: Inhaler carbon footprint. https://www.prescqipp.info/our-resources/bulletins/bulletin-295-inhaler-carbon-footprint/ (accessed 24 August 2022)

Optimising asthma care and greener inhaler prescribing: Answers

QUESTION 1

Overreliance on short-acting bronchodilators (SABA) can indicate poor disease control. Three or more days a week with any need for SABA is a pragmatic threshold for uncontrolled asthma (NICE, 2017).
Well-controlled asthma for most patients will mean using how many SABA inhalers a year?

1-2

Well controlled asthma for most patients will mean using 1-2 SABA inhalers a year. However, many patients in England are prescribed more than six SABA inhalers a year, which suggests over-reliance on SABA.

QUESTION 2

Respiratory targets for primary care this year involve limiting the number of issues of SABA to fewer than six SABA inhalers per year. An issue duration of how many days should be set to limit the number of SABA inhalers to fewer than six per year?

84 days

To limit issues of SABA to fewer than three SABA inhalers per year (optimum) an issue duration of 168 days can be set. For fewer than 6 SABA inhalers a year an issue duration of 84 days can be set.

QUESTION 3

Use the tables of inhalers by carbon footprint category in the Greener Practice (2021) resource how to reduce the carbon footprint of inhaler prescribing to identify which THREE of the following inhalers have a low carbon footprint (less than 2 kg CO2/inhaler)

DuoResp Spiromax
Fostair Nexthaler
Flutiform MDI

Dry powder inhalers and soft mist inhalers have a low carbon footprint and are safer for the environment. They should be prescribed in preference to MDIs where appropriate for the patient. JPrP